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THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

REPLY BRIEF FOR THE APPELLANTS

Ex parte Toshio YAMAGIWA

SEALANT-CONTAINING TIRE

Serial Number: 09/926,485
Filed: January 25, 2002
Appeal No.:
Group Art Unit: 1733
Examiner: Fischer, Justin R.

Submitted herewith is a Reply Brief. In the event that there may be any fees due with respect to the filing of this paper, please charge Deposit Account No. 01-2300, referencing docket number 107348-00179

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of

Confirmation No.: 5678

Toshio YAMAGIWA

Art Unit: 1733

Application No.: 09/926,485

Examiner: Fischer, Justin R.

Filed: January 25, 2002

Attorney Dkt. No.: 107348-00179

For: SEALANT-CONTAINING TIRE

REPLY BRIEF UNDER 37 C.F.R. § 41.41

Date: April 7, 2005

I. INTRODUCTION

The Appellants have received the Examiner's Answer dated February 11, 2005, in the above-referenced appeal. Pursuant to 37 C.F.R. § 41.41 and MPEP § 1208.03, Appellants respectfully submit this Reply Brief.

II. SUMMARY

This paper is submitted as part of an appeal from the rejection set forth in the final Office Action dated May 25, 2004, in the above-referenced application. The issue on appeal is whether claim 1 would have been obvious under 35 U.S.C. § 103(a) over Chimizard (U.S. Patent No. 4,286,643) in view of Beers (JP 7-266454) and optionally in view of either one of Chien (U.S. Patent No. 3,563,294) or Reinowski (U.S. Patent No. 3,042,098).

III. ISSUES IN REPLY BRIEF

The claimed subject matter of independent claim 1, the only claim pending in the application, relates to a sealant-containing tire comprising a tire body, an outer liner fastened to an inner surface of a tread of the tire body, and an inner liner defining an air chamber inside the inner liner, the outer liner and the inner liner together defining an annular sealant chamber therebetween which is filled with sealant, the sealant chamber and the air chamber being partitioned by said inner liner, wherein the inner liner is formed of a material of a 300% modulus of 60kgf/cm^2 or less.

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Chimizard (U.S. Patent No. 4,286,643) in view of Beers (JP 7-266454) and optionally in view of either one of Chien (U.S. Patent No. 3,563,294) or Reinowski (U.S. Patent No. 3,042,098).

Chemizard et al. discloses a pneumatic tire having a lining of puncture sealing product. Chemizard et al. includes an "inner covering 5 [that] is covered by a partitioned lining 6 of puncture self-sealing product...[that] can be made from an open ribbon 20 (FIG. 2) or from an entirely closed ribbon 30 (FIG. 4) or also a partially closed ribbon 40 (FIG. 5) or 50 (FIG. 6)" (column 1, lines 61-64).

It is noted that the Chemizard nowhere teaches or suggests that the ribbon is fastened to an inner surface of a tread of the tire body, as would be required to meet the limitations of the present claim.

The Examiner's Answer asserts that "the outer liner, as well as the tread, is formed of an elastomeric mixture and upon vulcanization of the tire, it is well recognized

in the tire industry that adjacent elastomeric components (inner surface of tread and outer liner...) become fastened to one another” (page 4 of the Examiner’s Answer).

Although Chemizard et al. nowhere discloses that the tire is vulcanized after the outer liner is installed, even if the left and right ends of the “airtight rubber” of covering 5 were to be fastened to the inner surface of the tire tread by vulcanization, Chemizard et al. nowhere teaches or suggests that the asserted outer liner (“partitioned liner 6”) is fastened to the tire tread by vulcanization.

Although the Examiner’s Answer asserts that the fastening in Chemizard et al. is somehow analogous to that disclosed in Appellants’ specification, the teachings of Appellants’ specification are not part of the Chemizard et al. disclosure and cannot be properly used to make up for the deficiencies in the teachings of the disclosure of Chemizard et al. Thus, while the present specification does disclose that “an outer liner 2 is fastened by vulcanization to the inner surface of a tread 4 of the tire body 1 and the left and right ends of the inner liner 3 **excluding the central part** are fastened by vulcanization to the inner surfaces of the left and right side walls 5, 5 of the tire body” (present specification page 2, lines 25-27, emphasis added), the disclosure of the present specification is not part of the teachings of Chemizard et al., which in fact nowhere teaches or suggests such fastening.

Additionally, Appellants again note that the structure of Chemizard does not result in any “**annular sealant chamber**...filled with sealant,” as required by the present claim. In particular, any sealant chamber or chambers formed by the construction of Chemizard would not be considered to be “annular” as required by the present claim.

The Examiner's Answer asserts that "the claim as currently drafted does not restrict the inclusion of partitions over the axial extent of the sealant chamber."

Although the Examiner's assertion may be correct if Appellants were claiming an annular wall surrounding a chamber, Appellants are claiming an annular **chamber**. Thus, **the shape of the chamber must be annular**. The Examiner's assertion that the claim does not restrict the inclusion of partitions would result in the conflicting assertion that the claimed **annular chamber** does not have to be **annular**. However, the fact is that the claimed **annular chamber** is **annular**, and the Examiner's assertion otherwise is incorrect.

In contrast, while the Chemizard et al. inner covering 5 appears to be annular, and while the outermost (the portion adjacent to the tire tread) 'layer' of lining 6 might be considered annular, the angled (with respect to annular) **chamber** (or chambers) formed by the "at least one continuous ribbon, one end of which is located in the region of one shoulder while the other end is located in the region of the other shoulder of the tire" (Chemizard et al. column 1, lines 28-32) is not annular. Thus, while Chemizard et al. would be relevant if Appellants' claim was directed to a **chamber** that was "non-annular," such is not the case with the presently claimed "annular" **chamber**.

Additionally, as the Office Action notes, Chemizard is completely silent as to a composition having a 300% modulus of an inner liner.

Beers, which discloses a pneumatic tire having an inner liner of cured rubber compound containing LDPE or LLDPE, fails to make up for the deficiencies in Chemizard. Beers merely teaches a liner that is adhered to or integral with the inside surface of a tire and does not relate to a (inner) liner that cooperates with an outer side

liner fastened to a tire tread surface for defining an annular sealant chamber between the two liners. In particular, Beers fails to teach or suggest an outer liner fastened to an inner surface of a tread of a tire body and also fails to teach or suggest an annular sealant chamber filled with sealant, both as required by the present claim.

Regarding a composition having a 300% modulus of an inner liner, Beers as well as Chien, Reinowski et al., nowhere teach or suggest **such a liner spaced by a sealant layer from the inner surface of a tread of the tire body**. The Examiner's Answer does not address this fact.

Thus, as elements of the present claim are missing from the cited combination of references, Appellants respectfully submit that the presently claimed invention would not have been obvious thereover for at least these reasons.

For all of the above-noted reasons, it is strongly contended that clear differences exist between the present invention as recited in claim 1 and the Chemizard, Beers, Chien and Reinowski references relied upon by the Examiner.

This final rejection being in error, therefore it is respectfully requested that this Honorable Board of Patent Appeals and Interferences reverse the Examiner's decision in this case and indicate the allowability of claim 1.

In the event that this paper is not considered timely filed, Appellants respectfully petition for an appropriate extension of time. Any fees for such extension, together with any additional fees which may be due with respect to this paper, may be charged to Deposit Account No. 01-2300, making reference to attorney docket number 107348-00179.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert K. Carpenter", written over a horizontal line.

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